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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/228,562	01/12/1999	TETSUO TANIGUCHI	36856.166	8433

7590 06/05/2002

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EXAMINER

TRAN, CON P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/228,562

Applicant(s)

TANIGUCHI ET AL.

Examiner

Con P. Tran

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-8** are rejected under 35 U.S.C. 102(b) as being anticipated by Lopez et al. U.S. Patent 5,132,647.

Regarding **claim 1**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) comprising:

a first LC filter circuit unit (L1, C1) including a common side line (see col. 5, lines 23-56);

a second LC filter circuit unit (L2, C2) including a common side line (see col. 5, lines 23-56);

a common line (see col. 5, lines 23-56);

wherein the common side line of the first LC filter circuit unit is connected to the common side line of the second LC filter circuit unit via the common line (see col. 5, lines 23-56).

Regarding **claim 2**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 1, wherein the first LC filter circuit unit includes at least one LC parallel resonant circuit (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

Regarding **claim 3**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 2, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

Regarding **claim 4**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 1, wherein the first LC filter circuit unit includes as least two LC parallel resonant circuits (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

Regarding **claim 5**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 1, wherein the second LC filter circuit includes at least one LC parallel resonant circuit (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

Regarding **claim 6**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim

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5, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

Regarding **claim 7**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 1, wherein the second LC filter circuit unit includes at least two parallel resonant circuits (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

Regarding **claim 8**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 1, wherein the common line includes at least one inductor (see col. 5, lines 23-56 and col. 6, line 59 – col. 7, line 17).

3. **Claims 11-21** are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. U.S. Patent 5,140,497.

Regarding **claim 11**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) comprising:

a plurality of insulating layers (see col. 1, line 51 – col. 2, line 21);

a first LC filter circuit unit having a plurality of first coil conductive patterns, first capacitor conductive patterns and a common side line (see col. 2, line 47 – col. 3, line 29).

a second LC filter circuit unit having a plurality of second coil conductive patterns, second capacitor conductive patterns and a common side line (see col. 1, line 51 – col. 2, line 21 and col. 2, line 47 – col. 3, line 29); and

a common line conductive pattern (see col. 1, line 51 – col. 2, line 21 and col. 2, line 47 – col. 3, line 29);

wherein the common side line of the first LC filter circuit unit is electrically connected to a common side line of the second LC filter circuit unit via the common line conductive pattern (see col. 1, line 51 – col. 2, line 21 and col. 2, line 47 – col. 3, line 29).

Regarding **claim 12**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to claim 11, wherein the first LC filter circuit unit includes at least one LC parallel resonant circuit (see col. 4, line 46 – col. 6, line 17).

Regarding **claim 13**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to claim 12, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor (see col. 4, line 46 – col. 6, line 17).

Regarding **claim 14**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to claim

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11, wherein the first LC filter circuit unit includes as least two LC parallel resonant circuits (see col. 4, line 46 – col. 6, line 17).

Regarding **claim 15**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to claim 11, wherein the at least one LC parallel resonant circuit includes an inductor and a capacitor (see col. 4, line 46 – col. 6, line 17).

Regarding **claim 16**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to claim 15, wherein the second LC filter circuit unit includes at least two parallel resonant circuits (see col. 4, line 46 – col. 6, line 17).

Regarding **claim 17**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to claim 11, wherein the common line includes at least one inductor (see col. 4, line 46 – col. 6, line 17).

Regarding **claim 18**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to Claim 11, wherein the filter has a layered unit structure and the common line conductive

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pattern is disposed inside of the layered unit structure (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17).

Regarding **claim 19**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 5 and respective portions of the specification) according to Claim 11, wherein the filter has a layered unit structure and the common line conductive pattern is disposed on a surface of the layered unit structure (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17).

Regarding **claim 20**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 3, 5 and respective portions of the specification) according to Claim 11, wherein the common line conductive pattern (to terminal 18e, 18f, 18g, and 18h) has an axially symmetric pattern (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17).

Regarding **claim 21**, Kato et al. teaches an input-output balanced filter (see col. 6, lines 7-17; Fig. 1, 3, 5 and respective portions of the specification) comprising:

a first LC bandpass filter circuit unit including a plurality of LC parallel resonant circuits electromagnetically connected to one another (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17);

a second LC bandpass filter circuit unit including a plurality of LC parallel

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resonant circuits electromagnetically connected to one another (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17);

an inductor for connecting a common side line of the first LC bandpass filter circuit unit to a common side line of the second LC bandpass filter circuit unit (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17);

an input terminal provided with one of the LC parallel resonant circuits of the first LC bandpass filter circuit unit and one of the LC parallel resonant circuits of the second LC bandpass filter circuit unit, respectively (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17);

an output terminal provided with another of the LC parallel resonant circuits of the first LC bandpass filter circuit unit and another of the LC parallel resonant circuits of the second LC bandpass filter circuit unit, respectively (see col. 2, line 46 – col. 3, line 9, and col. 4, line 46 – col. 6, line 17).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 9 and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lopez et al. U.S. Patent 5,132,647 in view of Kato et al. U.S. Patent 5,140,497.

Regarding **claim 9**, Lopez teaches an input-output balanced filter (see col. 5, lines 23-56; Fig. 4, 5, 6, and respective portions of the specification) according to claim 1.

However, Lopez does not explicitly disclose the filter has a layered unit structure and the common line is disposed inside of the layered unit structure.

In the same field of endeavor, Kato et al. teaches a filter (see Fig. 1, 2, 3, and respective portions of the specification) has a layered unit structure and the common line is disposed inside of the layered unit structure (see col. 1, line 51 – col. 2, line 21 and col. 2, line 47 – col. 3, line 29) in order to provide a composite electronic component whose frequency can easily be adjusted desirably (see col. 1, lines 53-54).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included within the Lopez a filter has a layered unit structure and the common line is disposed inside of the layered unit structure as taught by Kato et al. since such combination would have to provided a composite electronic component whose frequency can easily be adjusted desirably as suggested by Kato et al. in column 1, lines 53-54.

Regarding **claim 10**, Kato et al. further teaches the input-output balanced filter (see Fig. 1, 2, 3, and respective portions of the specification) according to claim 1,

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wherein the filter has a layered unit structure and the common line is disposed on a surface of the layered unit structure (see col. 1, line 51 – col. 2, line 21 and col. 2, line 47 – col. 3, line 29).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Inventor	Publication	Number	Disclosure
Burrage	US Patent	5,483,683	A changeover means for R.F. source
Komazaki et al.	US Patent	6,041,084	A LC-type dielectric filter.
Jackson et al.	US Patent	5,717,720	An arrangement for tuning a balanced-to-ground resonator .


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Con P. Tran whose telephone number is (703) 305-2341. The examiner can normally be reached on M - F (8:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office at telephone number (703) 306-0377.

cpt CPT
June 3, 2002



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